William Foy

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EDUCATION

Carnegie Mellon University | B.S. in Electrical and Computer Engineering Pittsburgh, PA
Intended Minor in Software Engineering, QPA: 3.92/4.0 Expected May 2022

RELEVANT COURSEWORK

Software Construction	Data Structures	Digital Systems
Computer Systems	Software Engineering for Startups	Android Development

INDUSTRY EXPERIENCE

Booz Allen Hamilton | Reverse Engineering Intern Fort Meade, MD
- Performed full security analysis on network-attached storage device Summer 2019
- Reverse engineering of firmware update binaries
- Automation of custom firmware modification

Booz Allen Hamilton | Cybersecurity Intern Fort Meade, MD
- Performed security audit on a commercial mesh Wi-Fi router Summer 2018
- Exploited multiple web client vulnerabilities

PROJECTS

Dynamic Memory Allocator (Malloc) Pittsburgh, PA
- Written in C with segregated free lists to optimize for memory utilization and throughput Fall 2019

Research Assistant at CMU Robotics Institute Pittsburgh, PA
- Testing of Husky UGV performance and energy consumption Fall 2019
- Development of multithreaded UGV control GUI using Python with PyQT

Concurrent Web Proxy Pittsburgh, PA
- Developed to cache and handle requests concurrently through multithreading in C Fall 2019

Defense against Quadcopter Security Vulnerabilities Aberdeen, MD
- Capstone project with Booz Allen Hamilton mentor Fall 2017 - Spring 2018
- Implemented WPA2 Wi-Fi protocol and SSH server onboard Parrot AR.Drone 2.0
- Cross-compiled software for ARM, including wpa_supplicant and Dropbear

Autonomous Racecar Project (MIT Beaver Works Summer Institute) Cambridge, MA
- Developed software for miniature racecars to navigate an obstacle-filled course Summer 2017
- Utilized control systems and computer vision through integration of Python with ROS

SKILLS

Languages: C/C++ ▪ Java ▪ Bash ▪ Python ▪ JavaScript ▪ HTML/CSS
Tools: React ▪ Git ▪ Unix ▪ L^{A}T$_E$X
Software: Android Studio ▪ Ghidra ▪ IDA ▪ ROS

EXTRACURRICULAR ACTIVITIES

Scotty Labs
- Project lead on development of mentor queue system for TartanHacks 2020

Plaid Parliament of Pwning (PPP) at Carnegie Mellon University
- Participation in Capture-the-Flag competitions

HONORS

College of Engineering Dean's List in Fall 2018, Spring 2019, Fall 2019